System Configuration Team (SCT)
Reasonable & Prudent Measure #26
Meeting Notes
December 12, 1996

Greetings and Introductions.
The December meeting of the System Configuration Team, held at the National Marine Fisheries Service's offices in Portland, Oregon, was co-chaired by Jim Ruff of the Northwest Power Planning Council staff and Bill Hevlin of NMFS. The agenda for the December 12 meeting and a list of attendees is attached as Enclosures A and B. The following is a summary (not a verbatim transcript) of items discussed at the meeting, together with actions taken on those items. Please note that some enclosures referenced may be too lengthy to routinely include with the meeting notes; copies of all enclosures referred to in the minutes are available upon request from Kathy Mott of NMFS at 503/230-5420.

The meeting participants set dates for the January and February SCT meetings. At the request of Bob Willis of COE, a half-day supplementary meeting to discuss and take comments on the Corps' Lower Snake Feasibility Study was scheduled for the morning of Thursday, January 16, following the regular SCT meeting on Jan. 15; attendance is open to anyone who wishes to ask questions or provide comments.

I. Bonneville Juvenile Passage Improvements -- Presentations of Multi-Year Workplan Priorities with Subsequent Discussion.

At the last SCT meeting, we asked people to come to today's meeting prepared to discuss their suggested approach at Bonneville for the next five years, said Hevlin. Gary Fredricks will present NMFS's suggested approach, Bob Willis is here to present the Corps' vision, and everyone else who cares to do so will have a chance to present their suggested alternative. Our time today is as short as it is valuable, and what I would like to do is give each of our presenters 15 minutes to make their case, without interruption, said Hevlin. Once these presentations are completed, we'll talk about critical differences and uncertainties between the plans.

Gary Fredricks led off with an overview of NMFS's suggested configuration at Bonneville. He distributed Enclosure C, a document entitled "Bonneville Dam Five-Year Plan," containing background information, a list of primary goals and tools and a

comparison of potential passage improvement tools (first and second powerhouse surface collectors, first and second powerhouse extended bar screens, relocation of bypass outfalls, collection channel improvements, powerhouse tailrace improvements, gas abatement measures, forebay guidance devices and modifications to reduce adult fallback -- see Enclosure C for detailed pro/con comparison of each measure).

Our conclusion, Fredricks said, is that the main passage problem at Bonneville is poor fish passage efficiency, primarily due to poor powerhouse guidance and low spillway capacity at that project. The list of goals and tools, obviously, are our best shot at remedying these problems.

Fredricks went through this document in some detail, ultimately providing NMFS's suggested configuration at Bonneville:

Near Term (1997-1999)

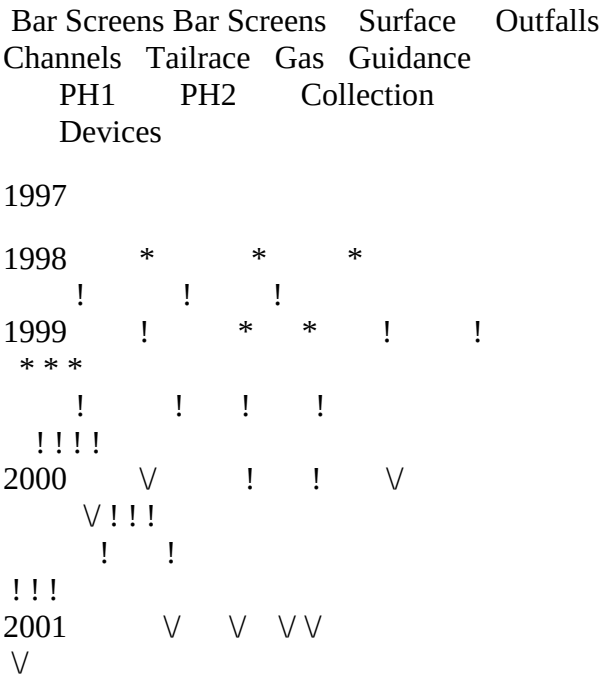
- ? Move forward as quickly as possible with extended screens at both powerhouses.
- ? Make improvements to the bypass collection channels and relocate the outfalls as planned.
- ? Delay first powerhouse surface collection studies (blocked trashrack and prototype).
- ? Delay second powerhouse corner collector studies.
- ? Continue to study juvenile behavior in the forebays.
- ? Continue to model and design surface collector to work with extended guidance screens at both powerhouses.
- ? Continue surface collection (high flow) outfall investigations.
- ? Move forward with implementation of gas abatement measures (Bonneville should be considered a priority project in the Gas Abatement Program).
- ? Move forward with methods to reduce adult fallback through the spillway.
- ? Move forward immediately with juvenile lamprey and salmonid fry passage investigations.

Long Term (1999-2001)

- ? Depending on results from model and behavioral work, ESBS tests and other surface collection work in the basin, move forward with prototype surface collectors at both powerhouses.
- ? Investigate improving powerhouse tailrace conditions (backroll).
- ? Continue biological studies, evaluate survival effects of

improvements.

Hevlin asked a series of questions about the schedule associated with NMFS's Bonneville configuration, sketching the following timeline on the board:




Next up was Bob Willis, who provided the Corps' suggested multi-year approach to Bonneville juvenile passage improvements. What I'm going to present today shouldn't be new or surprising, he began -- most of it has been presented in the context of the Anadromous Fish Evaluation Program, and is already in the Corps' program. Willis distributed Enclosure D, which contained detailed background biological data by species and powerhouse, survival data by powerhouse, and information on turbine rehab efforts, sluiceway conditions and Biological Opinion requirements.

One thing to keep in mind, said Willis, is the fact that there is a lot of history here. We've already tried once to install a juvenile bypass system at this project, but could never get it to work well enough. Bonneville is a unique project, and it isn't easy to come up with a single juvenile bypass solution that will work here -- that's why the Corps favors a multiple-option approach, Willis said.
Willis went through the information included in Enclosure D, and concluded by describing the current Corps program, as well as some other ideas for that project:

Current Bonneville Program (COE)

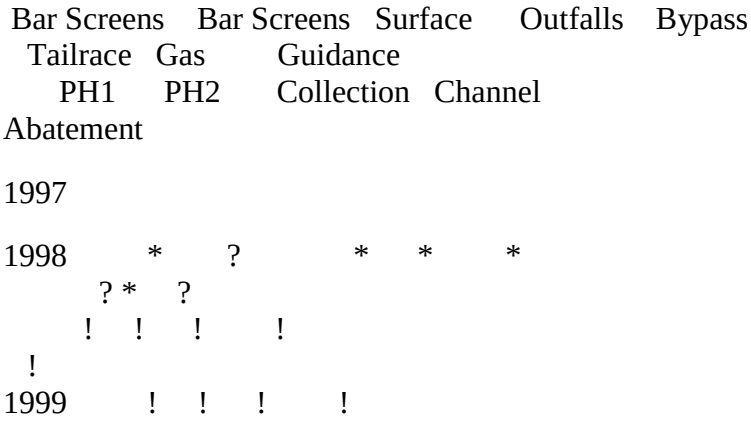
? Power distribution by 1998 -- this will give us greater flexibility allowing us to operate the first and second powerhouse independently, Willis explained.
? B2 DSM; monitoring and outfall by 1999 -- if we are to have this in place by 1999, Willis explained, we need to issue the construction contract by July 1997, so this group needs to make a decision about whether or not to proceed with PH2 DSM ASAP.
? B1 DSM, monitoring and outfall by 2001
? B1 surface bypass -- 1998 prototype test
? B2 surface bypass -- reviewing direction; 1999 prototype test planned
? B1 FGE, VBS, streamlined trashracks -- 1998 prototype test
? System studies: DGAS, turbines, acoustic guidance.

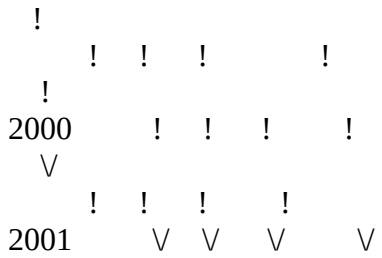
Willis also presented some other ideas, emphasizing that these are not currently in the Corps' Gas Abatement Program, but are possible items for SCT consideration.

Other Ideas

? Consider B2 ESBS study
? Consider Bonneville guidance curtain
? Consider study of adult fallback fence at upstream tip of Bradford Island
? Comprehensive project survival studies.

Hevlin asked a series of questions about the schedule for completion of the various measures included in the Corps' Bonneville program, sketching the following timeline on the board:






The next presenter was Bob Heinith of The Columbia River Inter-Tribal Fish Commission. Basically where the tribes are looking for, he said, is the system configuration that will give us the best smolt-to-adult survival at Bonneville. Heinith distributed Enclosure E, a chart detailing CRITFC's proposed capital construction priorities under the Five-Year Work Plan.

Heinith provided an overview of the technological foundation of CRITFC's proposed configuration, in particular, the very comprehensive Ledgerwood Study at Bonneville. In a nutshell, what this study showed was that fish that passed through the spillway at PH2 as juveniles ultimately had by far the greatest smolt-to-adult survival ratio of the three release groups in the study, Heinith said. The Tribes believe that the best way to maximize smolt-to-adult survival at Bonneville is to maximize the percentage of fish that pass this project via the spillway.

He went on to detail some of the main Bonneville priorities under CRITFC's recommended configuration:

- ? Move forward with surface bypass at PH1 (a total of $41.3 million budgeted under CRITFC's 5-year program)
- ? Due to fish safety concerns in the Powerhouse 1 tailrace, do not operate PH2 during the summer months -- channel that water through the spillway and PH1 instead
- ? Investigate the potential of a fish guidance curtain for the spillway
- ? Invest in gas abatement research below the spillway ($34 million budgeted)
- ? Design and implement structures to reduce adult fallback ($11 million budgeted).

The remainder of CRITFC's $115.8 million 5-year budget at Bonneville was divided between hydroacoustic spill efficiency monitoring ($6 million), turbine efficiency optimization ($5 million), trashrack modifications or additional pump at PH2 ($3.5 million), a research facility ($3.5 million) and several other lesser projects.

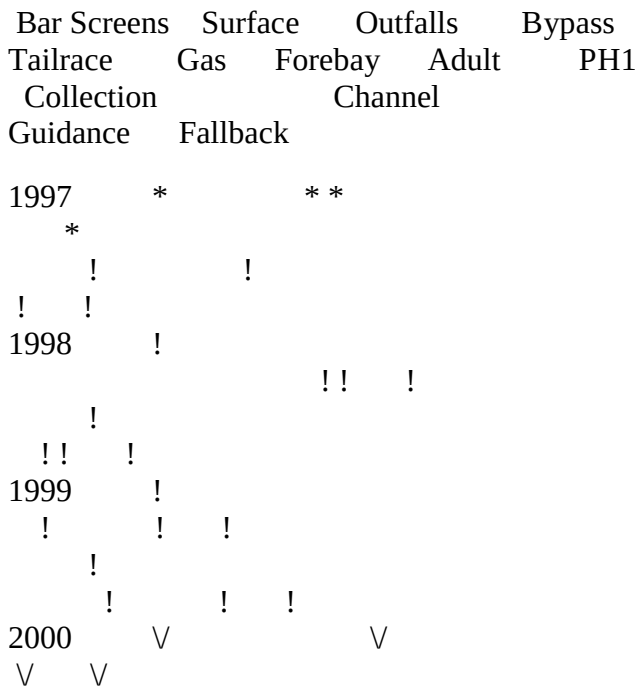
Is that $41.3 million intended to cover the entire cost of PH1

surface collection? asked one meeting participant. Yes, this what we estimate the cost of designing and building a surface colelction system at that project would be, Heinith replied -- I guess we think it can be done a little cheaper than the Corps does at the moment.

While we're on the subject, he continued, where is the Corps in the Environmental Assessment process for its proposed outfall relocation work? We've now gotten comments from the Washington Department of Ecology; we'll be responding to those and moving forward with finalizing the EA, Willis replied. As I mentioned, the first construction contract for that project is scheduled to be issued in July 1997.

Rob Lothrop has already told the Implementation Team that the tribes are very concerned about the outfall relocation issue, and are probably prepared to go to court if the Corps continues to pursue this course of action without giving more consideration to the available options, said Heinith. We're talking about $85 million, potentially, and that's a lot of money that could be going to other projects.

Hevlin drew the following schedule for completion of the various measures included in CRITFC's Bonneville program, sketching the following timeline on the board:




Opening the floor to general questions, Hevlin reiterated the hope that this discussion would clarify the critical differences

between the three plans. Fredricks listed several, beginning with the Corps approach. It seems to me that what the Corps is saying is, move forward on all fronts, including surface collection and screening devices, but move cautiously, Fredricks said. NMFS is saying move ahead full speed on screens, and move ahead cautiously on surface collection research. CRITFC is saying, essentially, no more work on powerhouse guidance devices except a possible fish guidance curtain at the spillway, and full speed ahead on surface collection, with all efforts directed at PH1.

In connection with CRITFC's recommended approach, Willis cautioned that the spill survival replicate of the Ledgerwood study should be taken with a grain of salt, because those fish were released under optimal conditions for spill survival; smolt-to-adult survival data are not available over a range of spill conditions.

What are some of the critical problems people see with each proposal, beginning with the NMFS scenario? asked Hevlin. Ferguson cautioned that, if 1996 forebay residence time data is driving NMFS's recommendation of a lower priority for surface collection at Bonneville, 1996 was a high flow year, and forebay residence times from last year may not be repeated in future years. Another meeting participant pointed out that more research is needed on lamprey survival, particularly through the turbines, at Bonneville; Fredricks conceded as much, and described one or two potential approaches to investigating lamprey passage.

In response to a question from Doug Clarke, Fredricks said that the feeling within his agency, based on the best available data, is that putting all of the Bonneville eggs in the ESBS basket makes the best sense. To do that means pulling back from surface collection for now. At the same time, Fredricks said, I'm not convinced that screens are going to get us 80% FPE at Bonneville, so we need to look at ways to augment and enhance what they do give us.

I have a concern about this entire discussion, said Ron Boyce of ODFW -- what we're basically talking about doing here is modifying the Biological Opinion. What criteria is NMFS going to use to do that, in terms of survival benefits or reduced risk to listed stocks? What quantitative assessment, in other words, is NMFS going to use to make that call? Actually, we're not talking about changing the Bi-Op, Fredricks replied -- each of the items we're recommending is included in the Bi-Op. The funding for all of these items is in the MOA, and it's a collaborative process, added Hevlin. Also, although the Bi-Op was intended to allow for

adaptive management, we're not going to throw it out the door without some pretty good quantitative justification. All we're trying to do here is make sure that all the ideas that are out there receive due consideration.

There is concern in the region that there isn't enough information to justify a major change of course at this point, said Rod Woodin of WDFW. The Corps apparently doesn't feel that's the case; NMFS apparently does, and we're kind of on the fence. Obviously NMFS's analyses have convinced them that screens are the option that will give the region the biggest survival bang for its buck; however, said Woodin, you haven't really shared the data underlying that conclusion. If you'd like to see some more numbers, we can give them to you, Hevlin agreed.

A question about spillway passage, said Jim Ruff of the NPPC staff -- we can only spill up to about 140 Kcfs at Bonneville and stay within the TDG waiver standards. That's not enough spill to achieve 80% FPE. How much more could you spill if you install gas abatement measures, how much might those cost and when might they be installed?

Depends on which ones you want, Willis replied -- we're probably talking about $250 million at Bonneville for the higher-end fixes. However, no matter what you do, you're never going to be able to spill the entire river flow at that project, which means you're always going to have at least some fish going through the first or second powerhouse.

I guess my comment on the CRITFC approach is that it leaves a lot of questions open, said Hevlin -- how much will you be able to spill in the future? How much gas abatement will you be able to achieve? How well will a surface collector work at that project? I don't see anything in your approach that really gives you a money-in-the-bank improvement in survival, said Hevlin. You're assuming that, politically speaking, we won't be able to continue to spill at that project, replied Heinith. I thought our task here was to make the best possible recommendations for fish survival based on the technical data, and to leave the politics to the folks back in Congress.

I think what Bob is saying is, maybe there's a more radical alternative that will get us to the 80% FPE and 95% project survival standards in the Bi-Op, said Woodin. We haven't done the testing yet, so we don't know, replied Willis. If you look at the numbers for extended bar screens, the percentage intercept is close to 70%; the surface collection prototype depth, for

spring fish, is 86%. That doesn't include spill, he added -- when you add that in, it may well be possible to get to the 80%/95% standards with these measures.

The discussion turned to next steps in the Bonneville decisionmaking process. Based on what I've heard today, said Willis, I think the Corps will continue along the path it has currently identified -- I don't hear any decisions that would change that, and in the meantime, work needs to go forward. We have to make a decision about blocked trashracks by January. In light of Bob's comments, we also need to have further SCT discussion about outfall relocation and monitoring facilities. If we do want to deviate from those paths, we need to start raising that issue to the IT and Executive Committee ASAP.

Can we isolate those issues and have a focused discussion at the next SCT meeting? asked Boyce. Yes, was the reply. Clarke added that the 1997 blocked trashrack test contract is scheduled to be issued in early January; construction and installation of the blocked trashrack is anticipated to cost about $400,000. A second item, the 1998 surface collector contract for Bonneville PH1, will be advertised in late April, so that project is on a short timeline as well. The third contract advertisement will be issued in late July for outfall/smolt monitoring/DSM improvements at Bonneville PH2. Also, said Clarke, if you want to keep open the possibility of a prototype surface collector test at Bonneville in 1999, you need to proceed with the design of a hybrid collector very quickly.

In response to a question, Fredricks expressed doubt that the proposed blocked trashrack test in 1997 will yield much useful data, given expected flow conditions this year. However, I don't want to have an in-depth discussion about the test until Steve (Rainey?) can be here, he added.

Returning to the CRITFC presentation, Ferguson said that, for a spill-only option to work at Bonneville, four things have to happen: first, a workable guidance curtain will probably have to be installed; second, the stilling basin has to be fixed, which is not going to be easy from either a design or a funding standpoint; third, adult fallback has to be resolved; fourth you have to assume that spill will still be a fish passage option in a deregulated environment. I'm not saying a spill-only approach won't work, he added -- I'm just saying those four factors have to click in order for it to work.

Those are exactly the kinds of critical uncertainties associated with each configuration that I hoped would come out of today's

discussion, said Hevlin -- in terms of next steps, I hope everyone can come to the January SCT meeting prepared to discuss the critical uncertainties associated with each of the proposals. What about a quantitative assessment of each approach? asked Boyce. We'll provide that at the next meeting as well, Hevlin said, at least for NMFS's recommended approach. Heinith agreed to do the same for CRITFC's approach; Hevlin said he would coordinate with Heinith to ensure that the assumptions and other analytical criteria used were compatible. Corps personnel said they would do the same for their recommended approach as well.

Other critical uncertainties associated with any of the three approaches? asked Hevlin. The question of what kind of guidance and collection efficiencies you can expect to get from a surface collector, said Boyce. Other uncertainties identified included:

? The amount of forebay guidance required to meet the Bi-Op FPE/project survival goals without increasing spill.
? Estimated/expected survival through all available routes of passage under each passage improvement scenario
? What biological uncertainties should the proposed research facility be designed to address?

The discussion returned briefly to the question of whether or not to move forward with the advertisement of the contract for the 1997 blocked trash rack test. I realize that decision needs to be made in a month or so, said Hevlin -- I don't sense a strong oppoosition to doing the test within our office; it's more that people are questioning what it will gain us. If people in the region want to see the test done, he said, NMFS isn't going to get in the way.

Does anyone here have a real problem with the blocked trashrack project going forward in FY'97? Hevlin asked. We do, Heinith replied -- the Tribes are not very high on it at all, given anticipated high flows and debris levels and the potential of the test to negatively impact survival of fish. We have some real questions about the test as well, added Marv Yoshinaka of USFWS. When's the next FFDRWG meeting? asked Hevlin. Next week, Ferguson replied. Sounds like this is a good discussion to have in that group, Hevlin suggested; if FFDRWG can't resolve it, the issue will be bumped up to the SCT and we'll put it on the agenda for January.

II. 1997 Work Plan for The Dalles.

All we want to do with this agenda item was to give the

Corps a chance to tell us what work is being funded at The Dalles in FY'97, and what work is not being funded, said Hevlin. COE's Norm Tolonen, project manager of The Dalles fish program, distributed Enclosure F, a packet containing a description of The Dalles FY'97 fish mitigation program, as well as some preliminary results from FY'96 testing at The Dalles. He went through this information in some detail, identifying the following items for funding or deferral at The Dalles in FY'97 (see Enclosure F for details):

- ? Radio telemetry study (multi-project)
- ? Fish behavior flume study (multi-project)
- ? Sluiceway outfall relocation study ($1.1 million total for these three items)
- ? Spillway survival/predation study
- ? Emergency adult attraction water supply study ($600,000)
- ? Adult ladder entrance dewatering study ($100,000)
- ? Document screened bypass design ($50,000)
- ? Hydroacoustic study (deferred)
- ? Block trashrack test (deferred)
- ? Prototype development (deferred).

The total program at The Dalles is budgeted at $2.9 million for fiscal 1997, Tolonen added. Looking at your list of deferred items, the tribes see the hydroacoustic study at The Dalles as being really important, said Heinith -- we'd like to see that go forward. At this point in time, that's not funded, Tolonen replied -- I'm not saying it couldn't be, but it's going to cost about $500,000.

Touching on results from the 1996 hydroacoustic work at the project, Tolonen said the Corps is still looking at this data. However, preliminary analysis of the hydroacoustic data shows spring spillway passage of about 48% at The Dalles at both the 30% and 64% spill levels. In the summer, spillway passage averaged about 66% at both 30% and 64% spill. The summer hydroacoustic data was verified by radio telemetry, Tolonen added.

You're telling us we can spill half as much at The Dalles, but get just as many fish through the spillway? Hevlin asked. That's what the hydroacoustics data says for both spring and summer, and what the radio telemetry data says for summer, Ferguson replied. The other thing to note was that project FPE at The Dalles was about 80% in both the spring and summer periods, regardless of spill levels, he added.

The bottom line is that, in 1996, we were able to meet 80%

project FPE at 30% spill in both the spring and summer periods, said Tolonen. The only setup that didn't give us 80% FPE was when we were spilling 64% in the spring. We think one of the reasons we're able to meet 80% FPE, even at 30% spill, is the fact that sluiceway passage is a non-turbine route at The Dalles, he added.

Moving on to outstanding issues at The Dalles in 1997, Tolonen touched on the FY'97 hydroacoustics and blocked trashrack retest to verify results from 1995 (1996 results were biased due to milling of fish behind the blocked units, which threw off the hydroacoustic sampling). These items are not currently funded under the FY'97 program, although it would still be possible to do the tests if the region feels they would be useful. Contract advertisement would need to take place very soon -- before the end of December

The other outstanding issue is the implication of the 1996 data on the longterm spill policy at The Dalles, given the fact that both 30% and 64% spill appear to give you 80% FPE, Tolonen added.

Does anyone else besides Bob Heinith think funding should be restored for hydroacoustics monitoring at The Dalles in FY'97? asked Hevlin. Both Fredricks and Boyce expressed support for the FY'97 hydroacoustics effort. That means we're going to have to find $500,000 from somewhere else in the budget, Hevlin observed. Finding the funding should not be a problem, said John Kranda of COE -- for example, there is a large block of funding earmarked for John Day in FY'97; that work has not yet started, and we don't know when it will start, said Dave Ponganis of the Corps. There is also $5 million available for Bonneville surface collection in FY'97, and it sounds like that project may be delayed as well.

After a few minutes of further discussion, the SCT recommended that the FY'97 hydroacoustics effort at The Dalles be funded (funding source T.B.D.). We'll look at some possible funding sources for that project, and report back at the next SCT meeting, said Ponganis.

What about the blocked trashrack re-test? asked Hevlin. A lengthy debate ensued, in which the Corps argued that funding for this project be restored (primarily to take advantage of the opportunity to combine this test with the hydroacoustic monitoring and increase data yield). Various SCT participants raised concerns about the proposed re-test, primarily because of increased danger to juvenile migrants during periods of high flow and debris. Ultimately, the SCT did not recommend that funding

be restored to the blocked trashrack study at The Dalles in FY'97. In response to a request from Willis, however, it was agreed to leave the door open on this item until FFDRWG can discuss it further; if FFDRWG can reach consensus one way or another, Hevlin summarized, the SCT will respect their wishes.

III. Review and Discussion of Proposed Biological Studies for John Day Drawdown Options.

There have been several studies proposed to look at the biological effects of John Day drawdown, Hevlin explained. Some funds have been made available for these studies, and hopefully we'll be able to do them in FY'97. Hevlin introduced Jim Peterson of the U.S. Geological Survey, who distributed Enclosure G, a document entitled "Preliminary Study Outline to Evaluate the Effects of John Day Reservoir Drawdown," prepared by USGS's Columbia River Research Laboratory, ODFW and NMFS.

Peterson explained that one of the main purposes of this project was to study the effects of drawdown on the food web within the reservoir. He touched on some of the critical uncertainties associated with John Day drawdown (predation mortality; migration rate, timing and condition of smolts; secondary or indirect effects such as fish community structure) as well as the data and analysis needs associated with each uncertainty (see Enclosure G for details). Ultimately, Peterson provided a summary of the proposed plan of study:

? Data and analysis would be developed to assist decisionmaking on John day drawdowns to different reservoir elevations. Major areas of analysis include:
? Predation mortality
? Smolt growth and condition
? Fish community structure
? Physical habitat.

That's it in a nutshell, said Peterson. We're in the business of providing information to the decisionmakers in the region; these were some of our ideas about how the John Day study should go forward, but if you feel there are gaps in our approach, we'd like to know about them. One thing regarding resident fish, said Woodin -- it's important that we key in on the predatory resident fish species, to see what we can do to limit their reproductive capability. That's certainly possible, Peterson agreed -- ODFW is already studying squawfish reproduction in John Day Reservoir, and we may be able to look at the longterm effects of drawdown on squawfish reporduction.

In response to a question, Hevlin said NMFS's justification letter to Congress on the John Day drawdown study issue is going to Will Stelle for signature today. All we really wanted to do at today's meeting, added Willis, was to give you an overview of the proposed biological study in support of John Day drawdown, and a chance to tell us whether or not we're headed in the right direction -- is this study going to give us the additional information we need to make a decision on drawdown? If we are headed in the right direction, the other thing we need to figure out is, when can we get started? After a few minutes of further discussion, no SCT members expressed objection to the John Day study plan as outlined by Peterson.

IV. Anadromous Fish Evaluation Program (AFEP) and Fish Facility Design Review Work Group (FFDRWG) Updates.

Rebecca Kalamasz from COE's Walla Walla District office briefed the SCT on the main discussion items at the most recent FFDRWG meeting in Walla Walla; this was a joint meeting with the Studies Review Work Group, she explained, so some of the discussion was also about research proposals. Major discussion items included:

? Surface Bypass/Collection. The group reviewed the ongoing SBC test work; among the results reported was a channel flow test that demonstrated that structural integrity cannot be guaranteed above 4 Kcfs channel flow. Gate inspections turned up no major surprises; the modification process has begun, and all repair work on the gates will be completed by March 15. WETS model work was also presented, confirming that the Lower Granite turbine intake insert should be able to simulate the flow lines observed in the Wells turbine intake configuration. The 1997 monitoring plan was also discussed at the meeting; no consensus on a final plan was reached.

? Debris Abatement. This report has already been distributed to the region, and Phase 1 short-term actions are already underway. This program is tied to the ESBS system now being installed at McNary Dam; that installation is scheduled to be complete on 12 of the 18 units at that project by March 4; the ESBS systems will be installed on the other six McNary units by April 30. In response to a question, Rebecca said she wasn't sure whether or not this means generating units will be out of service at McNary until the new screens can be installed -- it may be possible to continue to operate those units with the old screens in

place, she said.

? Evaluation Separator. A 50% report was handed out on this project at the meeting; we anticipate that the 95% report will be available on January 21, Rebecca said. The project is on schedule, with construction scheduled for completion by March 31, 1998.

? Lower Granite Dewatering Structure. A report on this issue was handed out prior to the meeting; at the meeting, the consensus was that the new dewatering system design appeared to address many of the problems associated with dewatering, and has the potential to be effective in a variety of scenarios, including surface collection and debris control at McNary. Strong support was expressed for this innovative design.

? Ice Harbor Flow Deflectors. The construction schedule for this project was updated at the meeting, Rebecca reported. Two deflectors are completed; a third and fourth will be completed by December 18.

? Ice Harbor Rehab -- Feasibility-Level Study. This study is now about 70% complete, with the final report due out March 15, Rebecca said. The three alternatives still under consideration include new blades, new turbines and minimum-gap runners. What about cost estimates for the three alternatives? asked Ruff. They were handed out at the meeting, Rebecca replied. In a nutshell, three of the Ice Harbor units need major repair work, while the other three just need rewinding. The cost estimate for new blades was $28,000-$48,000 per unit; for the minimum-gap runners, the cost is $52,000 per unit without the rewinding, $65,000 per unit with the rewind.

The next FFDRWG meeting was tentaively set for February 4, Rebecca added. At Hevlin's suggestion, Phil Thor said he would try to get the possible unit outages at McNary on the next Technical Management Team agenda.

V. Multi-Year Implementation Plan Development Update.

Ruff distributed Enclosure H, part of the most recent draft of the Mainstem Construction (SCT) chapter of the Multi-Year Implementation Plan (MYIP). What I've handed out is section 3.1, the description of the work plan, and section 3.6, the key policy issues section, he explained, primarily because they're the

sections that received the greatest number of comments (see Enclosure H for details).

The most important change to section 3.1 is the addition of section 3.1.1, which attempts to capture the different approaches to mainstem construction proposed by the Tribes and in the current approach, NPR 11, Ruff explained -- current program, funding by category. In section 3.6, what we've tried to do is explain what we're calling the "Adaptive Management" approach vs. the Tribes' Drawdown/Natural River approach, identifying the pros and cons of each.

The key policy issue we've identified is, can the region make a decision now on drawdown for the four Lower Snake projects and John Day, and if so, how can that help our process -- how can it help us save money and focus our efforts where they'll do the most good, said Ruff. And we have been eagerly awaiting comments from the Tribes.

Heinith provided a pie chart detailing CRITFC's budgetary priorities, in an attempt to compare apples to apples with the Corps' approach. The CRITFC chart included six major categories: Temperature Control/Gas Abatement, Spill Efficiency/Surface Bypass, Adult Passage, Drawdowns, Screen Systems/Transportation, and Other. Under these six categories, CRITFC proposes that the region spend $689 million during the 1997-2001 period. Under the Tribal proposal, the bulk of this money would be spent to advance drawdown; the proposal would achieve drawdown of three of the Lower Snake projects and the region would be ready to begin drawing John Day down to spillway crest by 2001. Other differences under the Tribal plan include greater emphasis on gas abatement and adult passage improvements.

With the final draft chapter due to the MYIP steering committe tomorrow, the group spent a few minutes discussing how best to integrate CRITFC's comments and additions, specifically the issue of how to telescope the eight major funding categories identified in the existing draft Mainstem Construction chapter into the six major categories identified by the Tribes. Ultimately, it was agreed to seek a deadline extension from the Steering Committee for the submission of the Mainstem Construction chapter of the MYIP. The next question is, when can we do this work, and who's going to do it? asked Ruff. It was agreed to assign this task to COE's Witt Anderson upon his return from vacation.

But only in jest. Actually, Ruff, Thor and Heinith agreed to set up a meeting, which would also include Anderson, for Monday, Dec. 16 to integrate CRITFC's additional material into the Mainstem

Construction chapter, on the understanding that the MYIP steering committee would be willing to grant a week's grace period on submission of the chapter.

VI. Introduction to Draft Lower Snake Interim Report.

Mike Mason said this report has now been distributed fairly widely throughout the region, and is available upon request from COE. The purpose of the report was to select a drawdown alternative for detailed evaluation; as most of you are aware, said Mason, the conclusion was that natural river drawdown year-'round is the preferred option. He asked that any additional comments be focused on Section 9 of the report, with the goal of a workplan and schedule for completion of the feasibility study that meets the region's expectations. It was agreed to schedule a further discussion of the Lower Snake feasibility report during the half-day SCT meeting on
January 16.

VII. Review Status of 1998 Work Plan Priorities and Budget.

This is on the agenda because we need to revisit our FY'98 plan in order to identify any significant differences between the priorities of various entities in the region, and to begin to try to resolve those differences, Hevlin said. The latest spreadsheet for FY'98 contains about $110 million worth of projects, and the time has come to discuss potential additions to or subtractions from that figure.

The last time we talked about this, I heard three areas of potential increase, said Ponganis -- John Day ESBS, turbine studies and adult passage. The question we'd like answered today is, are there other concerns about the spreadsheet? Items that should be added or subtracted?

The Tribes do not support the additional amount for John Day ESBS, said Heinith, and we'll need more information on the additional funding for turbine studies and adult passage before we can consider supporting them. Duly noted, said Ponganis -- other concerns? The Bonneville outfall modifications -- you know where we're coming from on those, said Heinith.

How are we going to prioritize FY'98 projects? asked Ruff. Here's where I'd like to start, said Hevlin -- let's identify where the significant differences of opinion lie, and ask Oregon,

Washington and Idaho to identify their priorities as soon as possible. There's also the Furse/Crapo letter to consider, which calls on the region to identify its construction priorities by September 1, before each fiscal year begins, Ruff observed.

Getting back to Jim's question, how are we going to resolve the FY'98 priority differences? asked Hevlin. After a few minutes of further discussion, it was agreed that each SCT member would revisit the FY'98 spreadsheet, to identify the budget items they feel should be moved up or down the priority list. Ruff volunteered to email the latest version of the spreadsheet to all SCT participants; it was also agreed to document each participant's priority for each proposed funding item, either in the minutes or the next version of the FY'98 spreadsheet.

The next question, of course, is how to resolve the differences between the priorities, said Hevlin. There are a number of items on which all three major plans agree, Ruff observed; those will provide a good jumping-off point for the discussion. After that, said Hevlin, it will be up to us, or to the IT, to resolve those disagreements. The bottom line is, come to the next SCT meeting prepared to begin the FY'98 ranking process in earnest.

VIII. Other.

In preparation for an agenda item for the Jan. 15 SCT meeting, Hevlin asked the committee to consider the issue of gas abatement above the Mid-Columbia projects. The fishery agencies, Tribes and NMFS have been in negotiations on an HCP for the Mid-Columbia projects, he said; we rely fairly heavily at the moment, and perhaps in the future, on spill at the Mid-Columbia projects for juvenile passage.

As we've requested structural changes to abate gas at the Mid-Columbia projects, the observation has been made that gas levels coming into the Mid-Columbia projects were already at or above the waiver limits, Hevlin said. At a meeting last week, NMFS agreed to bring this issue before the SCT, and ask the Bureau of Reclamation to talk, at the next SCT meeting, about what can be done to reduce TDG below Grand Coulee. It was also mentioned that the Boundary and Box Canyon projects on the Pend Oreille system were big gas generators in 1996, as was Chief Joseph -- we need to discuss those projects as well, he continued, and it's probably more appropriate to have that discussion in SCT rather than the Dissolved Gas Team. Richard Prange said the Bureau

would be prepared to report on potential gas abatement measures for Grand Coulee at the next SCT meeting, but cautioned that a major portion of the problem last year was high gas levels flowing into the Grand Coulee system from Canada.

In response to a question from Heinith, Willis said John Day Dam flip-lip installation is underway; the contractor is currently constructing bulkheads. He has zero bays done now, said Willis, but bear in mind that the start work date was delayed 60 days by a bid protest. Frankly, he said, we're in a dance with the contractor at the moment to determine how many bays he can get done, at what cost, before the end of April. What we heard from this group was that we don't want a cost increase, so what we've offered him instead is an additional 30 days in which to accomplish the work. We have also initiated discussions about what it will cost to ensure that the installation of the four bays called for under the original contract will be accomplished prior to the start of the migration season, he added.

My understanding was that we wanted to get flip-lips installed on as many bays as possible prior to the 1997 migration season, said Heinith -- I hope cost is not going to be a limiting factor in how many are installed. Cost is always a limiting factor, replied Kranda -- what we've said to the contractor is, how many bays can you get done between now and April 30? We're still waiting for his response, he added, but bear in mind that we were forced to trade 60 days of relatively good construction weather for 30 days of potentially lousy weather. If you need a decision prior to the next SCT meeting, we can convene a conference call, Hevlin said.

One other item, said Heinith -- the letter from Will Stelle to Col. Bohn of the Corps, which includes changes to the Biological Opinion. The language seems to implicate the SCT, indicating that the changes were coordinated here and therefore, NMFS is going ahead -- I've got a real problem with that, because we haven't agreed to all these RPA changes, Heinith said.

All of those changes were made last year, Hevlin replied. But to imply that the SCT agreed that these changes were OK is what we're having a problem with, said Heinith. We did agree, said Rod Woodin -- I've read the letter, and it appears to be a reasonably accurate documentation of decisions that were made here. The letter also spells out pretty clearly some of the ramifications of those decisions, relative to the Bi-Op, Woodin said -- some of the Bi-Op measures aren't necessarily being met, due in part, at least, to decisions made by this group. And the plan is to produce a similar document, outlining the changes the

SCT has made to the Bi-Op in 1998, Hevlin added.

IX. Review of Previous Meeting Minutes, Next SCT Meeting Date and Agenda Items.

The next SCT meeting was set for Wednesday, January 15 from 9 a.m. to 4 p.m. at NMFS's Portland offices. The February SCT meeting was set for Wednesday, February 12. Agenda items identified for the January SCT meeting included:

- ? Further discussion of critical uncertainties associated with the three alternative approaches to Bonneville juvenile passage improvements (All)
- ? Report on possible funding sources for FY'97 hydroacoustics monitoring at The Dalles Dam (COE)
- ? Report on possible TDG reduction measures at Grand Coulee Dam (BOR)
- ? A presentation on the Corps proposed turbine study project, which has received funding under the SCT's budgetary priorities.
- ? Ice Harbor Rehab (COE)
- ? John Day flip-lip installation update

With that, the meeting was adjourned. Meeting notes prepared by Jeff Kuechle, BPA contractor.

Final Notes 2/25/97